

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of Whaley et al.

Serial number: unassigned

Group Art Unit: unassigned

Attorney Docket Number: 01640393aa

Examiner: unassigned

Filed: US national stage filed concurrently herewith

For: ***"GENE ENCODING RESISTANCE TO ACETOLACTATE SYNTHASE-INHIBITING
HERBICIDES"***


SUBMISSION OF SEQUENCE LISTING AND STATEMENT TO SUPPORT FILING IN
ACCORDANCE WITH 37 C.F.R. §§ 1.821-1.825

Commissioner for Patents
PO Box 1450
Alexandria VA 22313-1450
Mail Stop SEQUENCE

Dear Sir:

We enclose herein an initial computer readable form (diskette) and a paper copy of the sequence listings for the above-identified US national stage patent application. Also enclosed is a verified statement that the content of the paper and computer readable copies are the same and include no new matter. Applicant respectfully requests amendment of the present application by entry of the Sequence Listing.

Respectfully submitted,


Ruth E. Tyler-Cross
Registration No. 45,922

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Reston, VA 20190
Tel: 703-787-9400
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JC17 Rec'd PCT/PTO 27 JUN 2005

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STATEMENT TO SUPPORT FILING AND SUBMISSION IN ACCORDANCE WITH
37 C.F.R. §§ 1.821-1.825

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450
Mail Stop SEQUENCE

Dear Sir:

In connection with a Sequence Listing submitted concurrently herewith, the undersigned states that:

1. the submission, filed herewith in accordance with 37 C.F.R. § 1.821 (g), does not include new matter;
2. the content of the attached paper copy and the attached computer readable copy of the Sequence Listing, submitted in accordance with 37 C.F.R. § 1.821(c) and (e), respectively, are the same; and
3. all statements made herein of their own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by

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JC17 Rec'd PCT/P10 27 JUN 2005

fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent resulting therefrom.

Respectfully submitted,



Ruth E. Tyler-Cross

Reg. No. 45,922

June 22, 2005
Date

10/540971

JC17 Rec'd PCT/PTO 27 JUN 2005

Sequence listing.ST25.txt
SEQUENCE LISTING

<110> Whaley, Cory M.
Wilson, Henry P.
Westwood, James H.

<120> Gene Encoding Resistance to Acetolactate Synthase-Inhibiting
Herbicides

<130> 01640393aa

<150> US 60/438,801
<151> 2003-01-09

<150> PCTUS04/00363
<151> 2004-01-09

<160> 8

<170> PatentIn version 3.2

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<213> Amaranthus hybridus

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Sequence listing.ST25.txt

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 <212> PRT
 <213> *Amaranthus hybridus*

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 20 25 30

Ser Arg Phe Ser Pro Glu Glu Pro Arg Lys Gly Cys Asp Val Leu Val
 35 40 45

Glu Ala Leu Glu Arg Glu Gly Val Thr Asp Val Phe Ala Tyr Pro Gly
 50 55 60

Gly Ala Ser Met Glu Ile His Gln Ala Leu Thr Arg Ser Asn Ile Ile
 65 70 75 80

Arg Asn Val Leu Pro Arg His Glu Gln Gly Gly Val Phe Ala Ala Glu
 85 90 95

Gly Tyr Ala Arg Ala Thr Gly Arg Val Gly Val Cys Ile Ala Thr Ser
 100 105 110

Gly Pro Gly Ala Thr Asn Leu Val Ser Gly Leu Ala Asp Ala Leu Leu
 Page 2

Sequence listing.ST25.txt

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125
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165      170      175
Arg Ile Val Lys Glu Ala Phe Phe Leu Ala Asn Ser Gly Arg Pro Gly
180      185      190
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195      200      205
Pro Asn Trp Glu Gln Pro Ile Lys Leu Gly Gly Tyr Leu Ser Arg Leu
210      215      220
Pro Lys Pro Thr Tyr Ser Ala Asn Glu Glu Gly Leu Leu Asp Gln Ile
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Val Arg Leu Val Gly Glu Ser Lys Arg Pro Val Leu Tyr Thr Gly Gly
245      250      255
Gly Cys Leu Asn Ser Ser Glu Glu Leu Arg Lys Phe Val Glu Leu Thr
260      265      270
Gly Ile Pro Val Ala Ser Thr Leu Met Gly Leu Gly Ala Phe Pro Cys
275      280      285
Thr Asp Asp Leu Ser Leu His Met Leu Gly Met His Gly Thr Val Tyr
290      295      300
Ala Asn Tyr Ala Val Asp Lys Ala Asp Leu Leu Leu Ala Phe Gly Val
305      310      315      320
Arg Phe Asp Glu Arg Val Thr Gly Lys Leu Glu Ala Phe Ala Ser Arg
325      330      335
Ala Lys Ile Val His Ile Asp Ile Asp Ser Ala Glu Ile Gly Lys Asn
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Lys Gln Pro His Val Ser Ile Cys Gly Asp Val Lys Val Ala Leu Gln
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Sequence listing.ST25.txt

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385 390 395 400

Leu Ser Phe Lys Thr Phe Gly Asp Ala Ile Pro Pro Gln Tyr Ala Ile
405 410 415

Gln Val Leu Asp Glu Leu Thr Lys Gly Asp Ala Val Val Ser Thr Gly
420 425 430

Val Gly Gln His Gln Met Trp Ala Ala Gln Phe Tyr Lys Tyr Arg Asn
435 440 445

Pro Arg Gln Trp Leu Thr Ser Gly Gly Leu Gly Ala Met Gly Phe Gly
450 455 460

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Val Asp Ile Asp Gly Asp Gly Ser Phe Ile Met Asn Val Gln Glu Leu
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Ala Thr Ile Arg Val Glu Asn Leu Pro Val Lys Ile Met Leu Leu Asn
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Asn Gln His Leu Gly Met Val Val Gln Trp Glu Asp Arg Phe Tyr Lys
515 520 525

Ala Asn Arg Ala His Thr Tyr Leu Gly Asn Pro Ser Asn Ser Ser Glu
530 535 540

Ile Phe Pro Asp Met Leu Lys Phe Ala Glu Ala Cys Asp Ile Pro Ala
545 550 555 560

Ala Arg Val Thr Lys Val Ser Asp Leu Arg Ala Ala Ile Gln Thr Met
565 570 575

Leu Asp Thr Pro Gly Pro Tyr Leu Leu Asp Val Ile Val Pro His Gln
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Glu His Val Leu Pro Met Ile Pro Ser Gly Ala Ala Phe Lys Asp Thr
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Sequence listing.ST25.txt

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tttgcttacc ctggtggagc atccatggaa attcatcaag ctcttactcg ttctaataatc    240
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Sequence listing.ST25.txt

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35 40 45

Val Glu Ala Leu Glu Arg Glu Gly Val Thr Asp Val Phe Ala Tyr Pro
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Gly Gly Ala Ser Met Glu Ile His Gln Ala Leu Thr Arg Ser Asn Ile
65 70 75 80

Ile Arg Asn Val Leu Pro Arg His Glu Gln Gly Gly Val Phe Ala Ala
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Glu Gly Tyr Ala Arg Ala Thr Gly Arg Val Gly Val Cys Ile Ala Thr
100 105 110

Ser Gly Pro Gly Ala Thr Asn Leu Val Ser Gly Leu Ala Asp Ala Leu
115 120 125

Asp Asp Ser Val Pro Leu Val Ala Ile Thr Gly Gln Val Pro Arg Arg
130 135 140

Met Ile Gly Thr Asp Ala Phe Gln Glu Thr Pro Ile Val Glu Val Thr
145 150 155 160

Arg Ser Ile Thr Lys His Asn Tyr Leu Val Leu Asp Val Glu Asp Ile
165 170 175

Pro Arg Ile Val Lys Glu Ala Phe Phe Leu Ala Asn Ser Gly Arg Pro
Page 6

Sequence listing.ST25.txt

180

185

190

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Val₂₁₀ Pro Asn Trp Glu Gln Pro Ile Lys Leu Gly Gly Tyr Leu Ser Arg₂₂₀

Leu₂₂₅ Pro Lys Pro Thr Tyr Ser Ala Asn Glu Glu Gly Leu Leu Asp Gln₂₄₀

Ile Val Arg Leu Val₂₄₅ Gly Glu Ser Lys Arg Pro Val Leu Tyr Thr Gly₂₅₅

Gly Gly Cys Leu₂₆₀ Asn Ser Ser Glu Glu Leu Arg Lys Phe Val Glu Leu₂₇₀

Thr Gly Ile₂₇₅ Pro Val Ala Ser Thr Leu Met Gly Leu Gly Ala Phe Pro₂₈₅

Cys Thr Asp Asp Leu Ser Leu His Met Leu Gly Met His Gly Thr Val₂₉₀

Tyr Ala Asn Tyr Ala Val₃₁₀ Asp Lys Ala Asp Leu Leu Leu Ala Phe Gly₃₂₀

Val Arg Phe Asp Asp Arg Val Thr Gly Lys Leu Glu Ala Phe Ala Ser₃₃₅

Arg Ala Lys Ile Val His Ile Asp Ile Asp Ser Ala Glu Ile Gly Lys₃₄₀

Asn Lys Gln Pro His Val Ser Ile Cys Gly Asp Val Lys Val Ala Leu₃₅₅

Gln Gly Leu Asn Lys Ile Leu Glu Ser Arg Lys Gly Lys Val Lys Leu₃₇₀

Asp Phe Ser Asn Trp Arg Glu Glu Leu Asn Glu Gln Lys Lys Lys Phe₃₈₅

Pro Leu Ser Phe Lys Thr Phe Gly Asp Ala Ile Pro Pro Gln Tyr Ala₄₀₅

Ile Gln Val Leu Asp Glu Leu Thr Lys Gly Asp Ala Val Val Ser Thr₄₂₀

Sequence listing.ST25.txt

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Leu Ala Thr Ile Arg Val Glu Asn Leu Pro Val Lys Ile Met Leu Leu
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Asn Asn Gln His Leu Gly Met Val Val Gln Trp Glu Asp Arg Phe Tyr
515 520 525

Lys Ala Asn Arg Ala His Thr Tyr Leu Gly Asn Pro Ser Asn Ser Ser
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Glu Ile Phe Pro Asp Met Leu Lys Phe Ala Glu Ala Cys Asp Ile Pro
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Ala Ala Arg Val Thr Lys Val Ser Asp Leu Arg Ala Ala Ile Gln Thr
565 570 575

Met Leu Asp Thr Pro Gly Pro Tyr Leu Leu Asp Val Ile Val Pro His
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Thr Ile Thr Glu Gly Asp Gly Arg Arg Ala Tyr
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<213> Amaranthus hybridus

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Sequence listing.ST25.txt

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<212> PRT

<213> Amaranthus hybridus

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35 40 45

Glu Ala Leu Glu Arg Glu Gly Val Thr Asp Val Phe Ala Tyr Pro Gly
50 55 60

Gly Ala Ser Met Glu Ile His Gln Ala Leu Thr Arg Ser Asn Ile Ile
65 70 75 80

Arg Asn Val Leu Pro Arg His Glu Gln Gly Gly Val Phe Ala Ala Glu
85 90 95

Gly Tyr Ala Arg Ala Thr Gly Arg Val Gly Val Cys Ile Ala Thr Ser
100 105 110

Gly Pro Gly Ala Thr Asn Leu Val Ser Gly Leu Ala Asp Ala Leu Leu
115 120 125

Asp Ser Val Pro Leu Val Ala Ile Thr Gly Gln Val Pro Arg Arg Met
130 135 140

Ile Gly Thr Asp Ala Phe Gln Glu Thr Pro Ile Val Glu Val Thr Arg
145 150 155 160

Ser Ile Thr Lys His Asn Tyr Leu Val Leu Asp Val Glu Asp Ile Pro
165 170 175

Arg Ile Val Lys Glu Ala Phe Phe Leu Ala Asn Ser Gly Arg Pro Gly
180 185 190

Pro Val Leu Ile Asp Ile Pro Lys Asp Ile Gln Gln Gln Leu Val Val
Page 9

Sequence listing.ST25.txt

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225 230 235 240
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245 250 255
Gly Cys Leu Asn Ser Ser Glu Glu Leu Arg Lys Phe Val Glu Leu Thr
260 265 270
Gly Ile Pro Val Ala Ser Thr Leu Met Gly Leu Gly Ala Phe Pro Cys
275 280 285
Thr Asp Asp Leu Ser Leu His Met Leu Gly Met His Gly Thr Val Tyr
290 295 300
Ala Asn Tyr Ala Val Asp Lys Ala Asp Leu Leu Leu Ala Phe Gly Val
305 310 315 320
Arg Phe Asp Glu Arg Val Thr Gly Lys Leu Glu Ala Phe Ala Ser Arg
325 330 335
Ala Lys Ile Val His Ile Asp Ile Asp Ser Ala Glu Ile Gly Lys Asn
340 345 350
Lys Gln Pro His Val Ser Ile Cys Gly Asp Val Lys Val Ala Leu Gln
355 360 365
Gly Leu Asn Lys Ile Leu Glu Ser Arg Lys Gly Lys Val Lys Leu Asp
370 375 380
Phe Ser Asn Trp Arg Glu Glu Leu Asn Glu Gln Lys Lys Lys Phe Pro
385 390 395 400
Leu Ser Phe Lys Thr Phe Gly Asp Ala Ile Pro Pro Gln Tyr Ala Ile
405 410 415
Gln Val Leu Asp Glu Leu Thr Lys Gly Asp Ala Val Val Ser Thr Gly
420 425 430
Val Gly Gln His Gln Met Trp Ala Ala Gln Phe Tyr Lys Tyr Arg Asn
435 440 445

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Sequence listing.ST25.txt

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485 490 495

Ala Thr Ile Arg Val Glu Asn Leu Pro Val Lys Ile Met Leu Leu Asn
500 505 510

Asn Gln His Leu Gly Met Val Val Gln Trp Glu Asp Arg Phe Tyr Lys
515 520 525

Ala Asn Arg Ala His Thr Tyr Leu Gly Asn Pro Ser Asn Ser Ser Glu
530 535 540

Ile Phe Pro Asp Met Leu Lys Phe Ala Glu Ala Cys Asp Ile Pro Ala
545 550 555 560

Ala Arg Val Thr Lys Val Ser Asp Leu Arg Ala Ala Ile Gln Thr Met
565 570 575

Leu Asp Thr Pro Gly Pro Tyr Leu Leu Asp Val Ile Val Pro His Gln
580 585 590

Glu His Val Leu Pro Met Ile Pro Ser Gly Ala Ala Phe Lys Asp Thr
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Ile Thr Glu Gly Asp Gly Arg Arg Ala Tyr
610 615

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<213> Amaranthus hybridus

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20 25 30

Ser Arg Phe Ser Pro Glu Glu Pro Arg Lys Gly Cys Asp Val Leu Val
35 40 45

Sequence listing.ST25.txt

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Gly Ala Ser Met Glu Ile His Gln Ala Leu Thr Arg Ser Asn Ile Ile
65 70 75 80

Arg Asn Val Leu Pro Arg His Glu Gln Gly Gly Val Phe Ala Ala Glu
85 90 95

Gly Tyr Ala Arg Ala Thr Gly Arg Val Gly Val Cys Ile Ala Thr Ser
100 105 110

Gly Pro Gly Ala Thr Asn Leu Val Ser Gly Leu Ala Asp Ala Leu Asp
115 120 125

Asp Ser Val Pro Leu Val Ala Ile Thr Gly Gln Val Pro Arg Arg Met
130 135 140

Ile Gly Thr Asp Ala Phe Gln Glu Thr Pro Ile Val Glu Val Thr Arg
145 150 155 160

Ser Ile Thr Lys His Asn Tyr Leu Val Leu Asp Val Glu Asp Ile Pro
165 170 175

Arg Ile Val Lys Glu Ala Phe Phe Leu Ala Asn Ser Gly Arg Pro Gly
180 185 190

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Pro Lys Pro Thr Tyr Ser Ala Asn Glu Glu Gly Leu Leu Asp Gln Ile
225 230 235 240

Val Arg Leu Val Gly Glu Ser Lys Arg Pro Val Leu Tyr Thr Gly Gly
245 250 255

Gly Cys Leu Asn Ser Ser Glu Glu Leu Arg Lys Phe Val Glu Leu Thr
260 265 270

Gly Ile Pro Val Ala Ser Thr Leu Met Gly Leu Gly Ala Phe Pro Cys
275 280 285

Thr Asp Asp Leu Ser Leu His Met Leu Gly Met His Gly Thr Val Tyr
290 295 300

Sequence listing.ST25.txt

Ala Asn Tyr Ala Val Asp Lys Ala Asp Leu Leu Leu Ala Phe Gly Val
305 310 315 320

Arg Phe Asp Asp Arg Val Thr Gly Lys Leu Glu Ala Phe Ala Ser Arg
325 330 335

Ala Lys Ile Val His Ile Asp Ile Asp Ser Ala Glu Ile Gly Lys Asn
340 345 350

Lys Gln Pro His Val Ser Ile Cys Gly Asp Val Lys Val Ala Leu Gln
355 360 365

Gly Leu Asn Lys Ile Leu Glu Ser Arg Lys Gly Lys Val Lys Leu Asp
370 375 380

Phe Ser Asn Trp Arg Glu Glu Leu Asn Glu Gln Lys Lys Lys Phe Pro
385 390 395 400

Leu Ser Phe Lys Thr Phe Gly Asp Ala Ile Pro Pro Gln Tyr Ala Ile
405 410 415

Gln Val Leu Asp Glu Leu Thr Lys Gly Asp Ala Val Val Ser Thr Gly
420 425 430

Val Gly Gln His Gln Met Trp Ala Ala Gln Phe Tyr Lys Tyr Arg Asn
435 440 445

Pro Arg Gln Trp Leu Thr Ser Gly Gly Leu Gly Ala Met Gly Phe Gly
450 455 460

Leu Pro Ala Ala Ile Gly Ala Ala Val Ala Arg Pro Asp Ala Val Val
465 470 475 480

Val Asp Ile Asp Gly Asp Gly Ser Phe Ile Met Asn Val Gln Glu Leu
485 490 495

Ala Thr Ile Arg Val Glu Asn Leu Pro Val Lys Ile Met Leu Leu Asn
500 505 510

Asn Gln His Leu Gly Met Val Val Gln Trp Glu Asp Arg Phe Tyr Lys
515 520 525

Ala Asn Arg Ala His Thr Tyr Leu Gly Asn Pro Ser Asn Ser Ser Glu
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Ile Phe Pro Asp Met Leu Lys Phe Ala Glu Ala Cys Asp Ile Pro Ala
545 550 555 560

Sequence listing.ST25.txt

Ala Arg Val Thr Lys Val Ser Asp Leu Arg Ala Ala Ile Gln Thr Met
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Leu Asp Thr Pro Gly Pro Tyr Leu Leu Asp Val Ile Val Pro His Gln
580 585 590

Glu His Val Leu Pro Met Ile Pro Ser Gly Ala Ala Phe Lys Asp Thr
595 600 605

Ile Thr Glu Gly Asp Gly Arg Arg Ala Tyr
610 615